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RADIOSS Typical Aircraft Seat model validation

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Altair Development France

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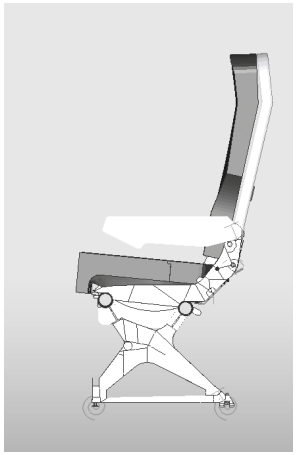
Notice

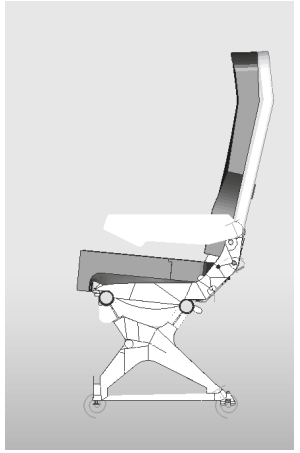


The initial model was provided by NIAR, in Ls Dyna format

That model was then converted into RADIOSS and update using RADIOSS modelling philosophy

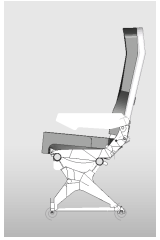
The model was further improved to avoid intersections between seat components using RADIOSS contact type 7 and 11

Model Statistics

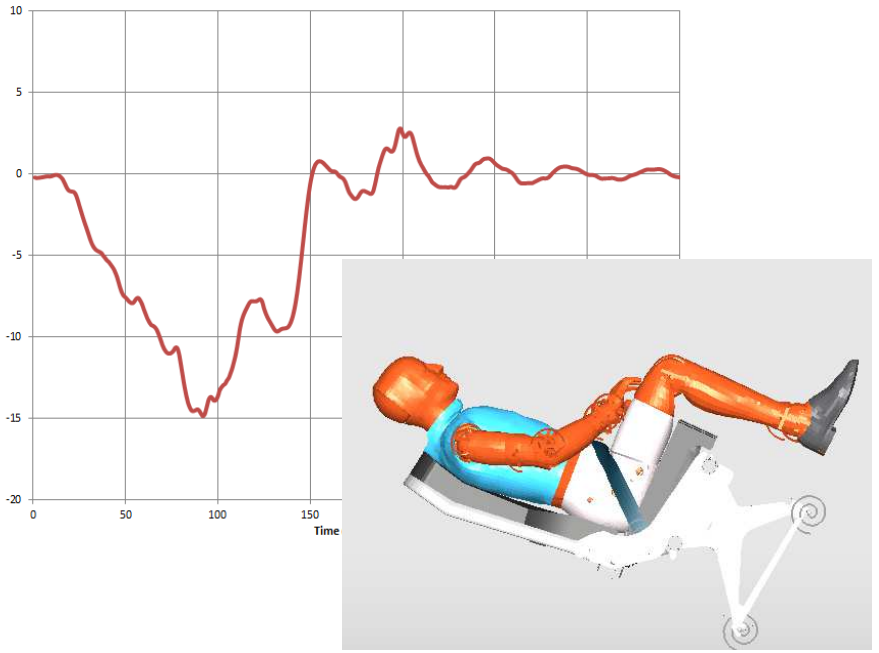


Item	Total number
RADIOSS version	12.0210
Nodes	161712
Beam / springs	24 / 2
SH3N/SHELL	1094 / 57440
Solid	86830
Time steps (µs)	1.14
Mass (kg)	19.486

Validation : 0° and 60° forward condition



Two tests were conducted by CAMI as per AC 25.562 and will be used for the validation of RADIOSS Burn Aircraft seat

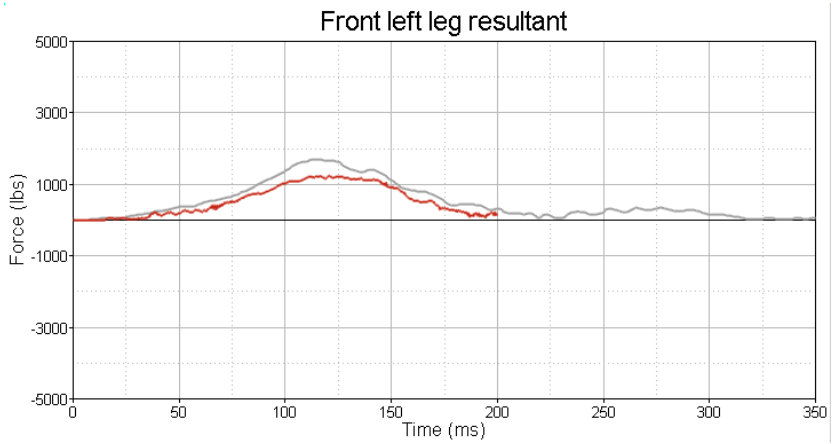


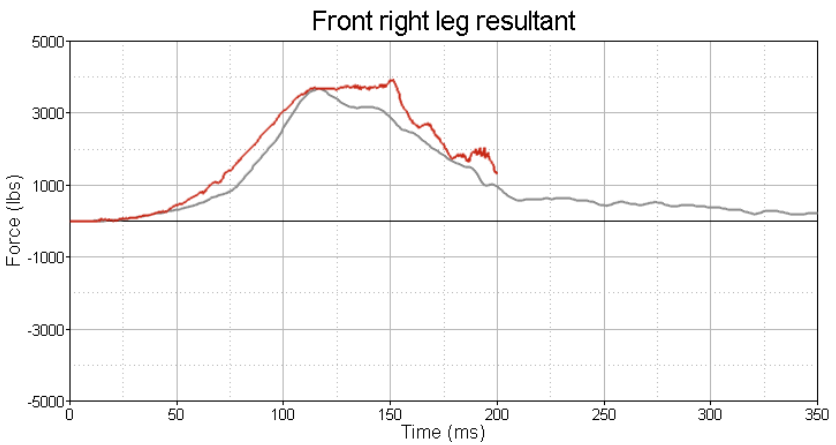
Validation : 0° forward condition

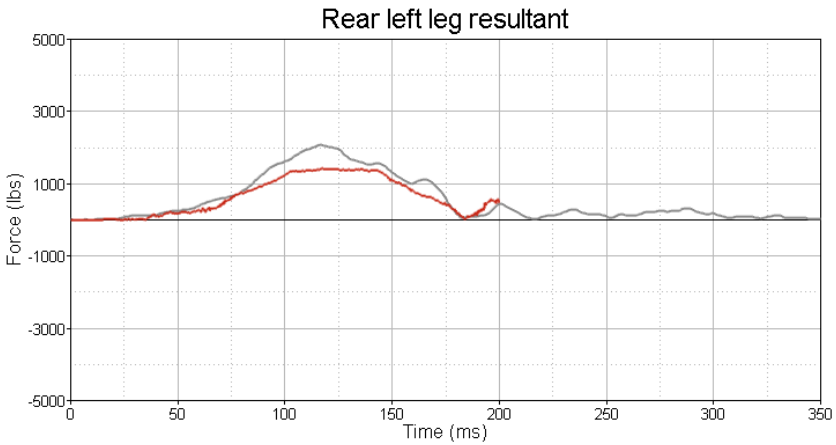
Validation : 0° forward condition

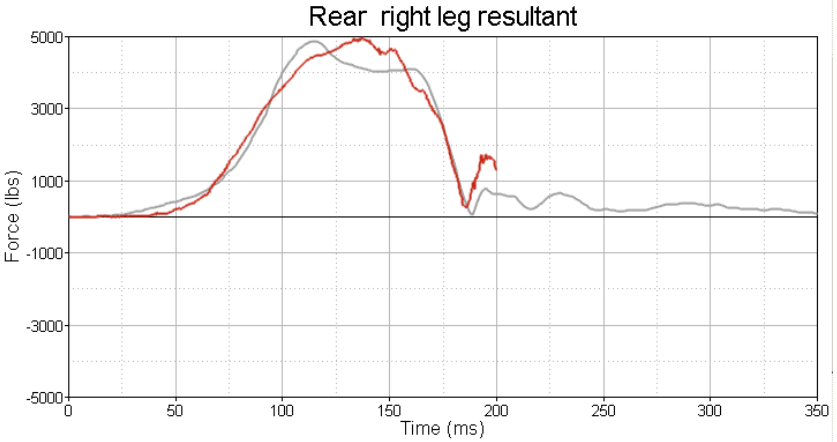
- **Seat to floor load cell**

--- Test
--- RADIOSS model





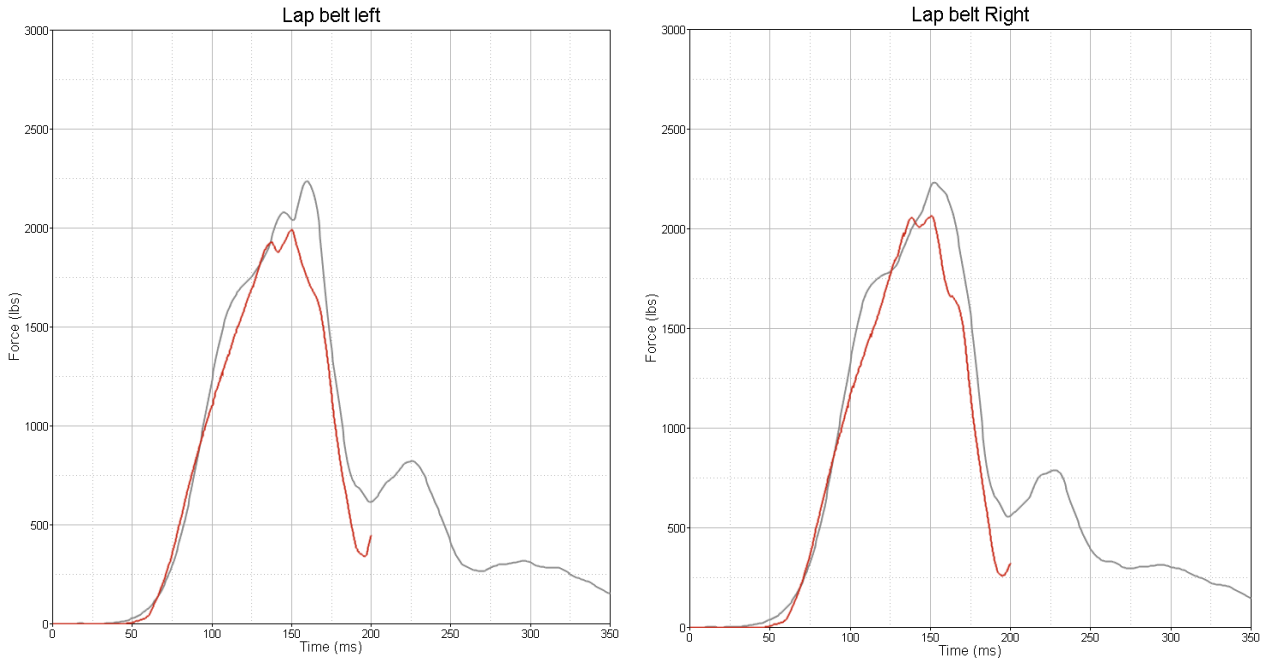




Validation : 0° forward condition

- **Belt load cell**

--- Test
--- RADIOSS model



Validation : 0° forward condition

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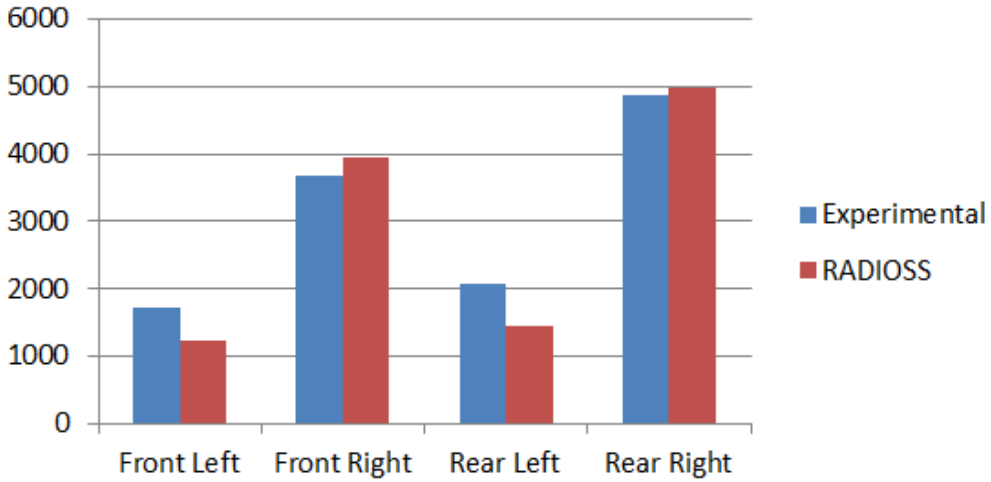
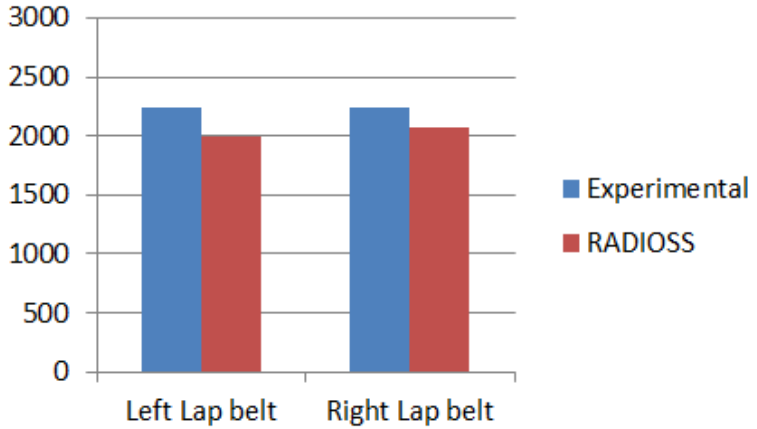
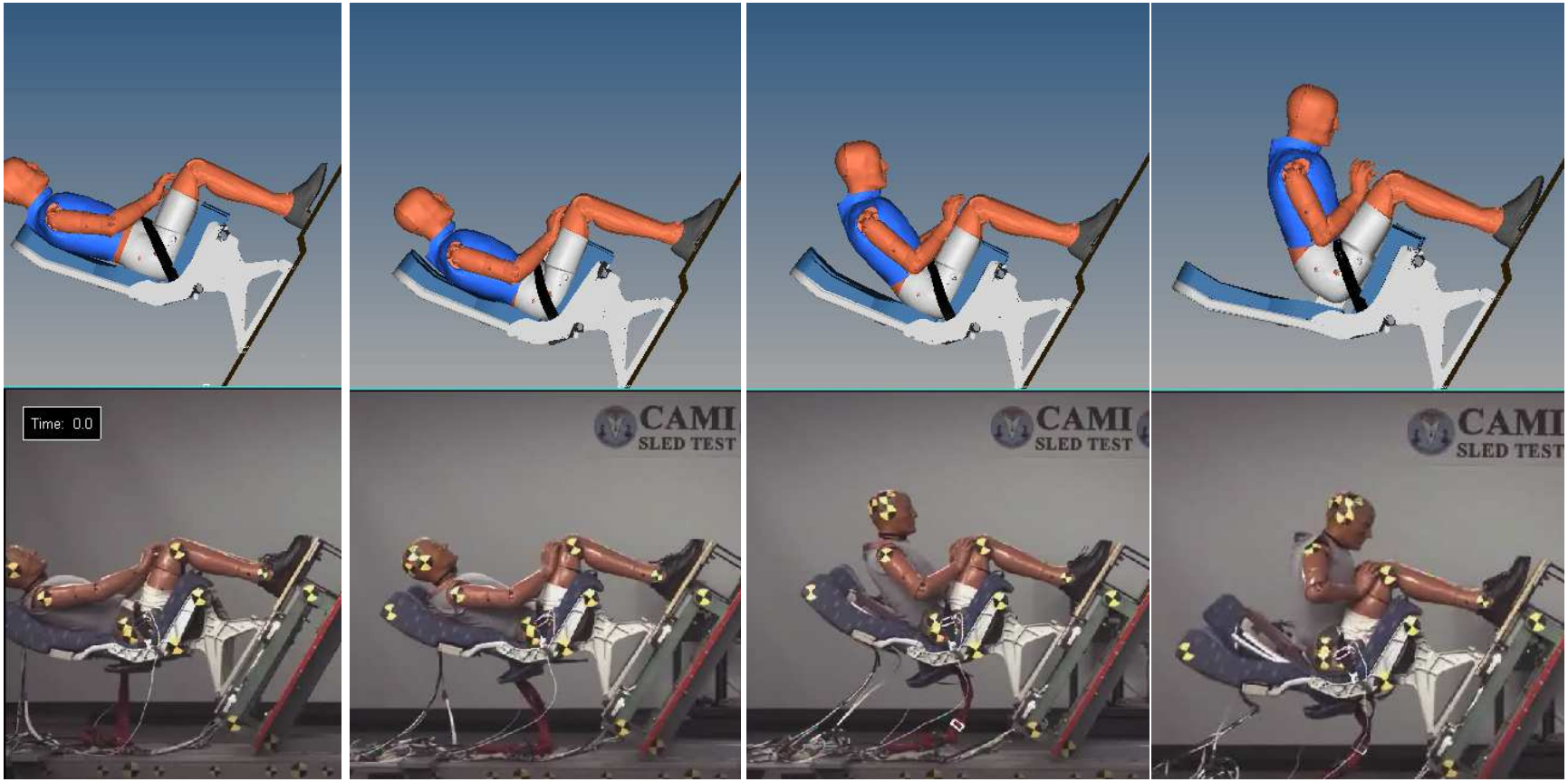
· Summary

Good correlation is observed for critical chanel.





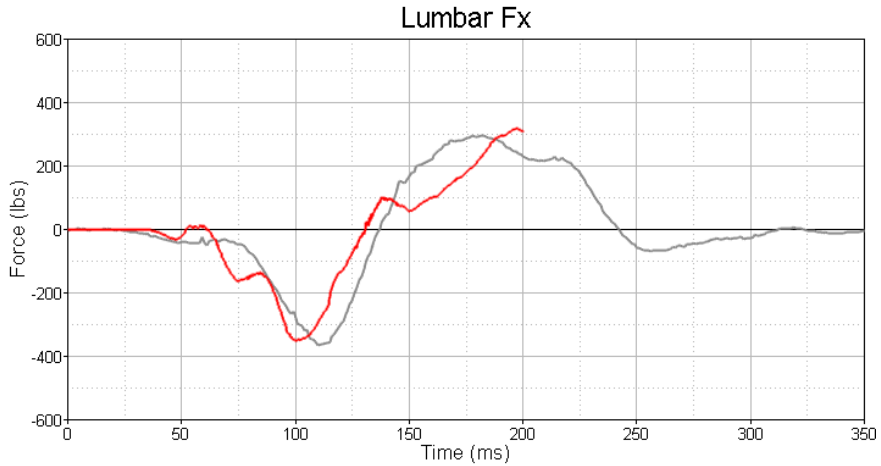
Validation : 60° forward condition

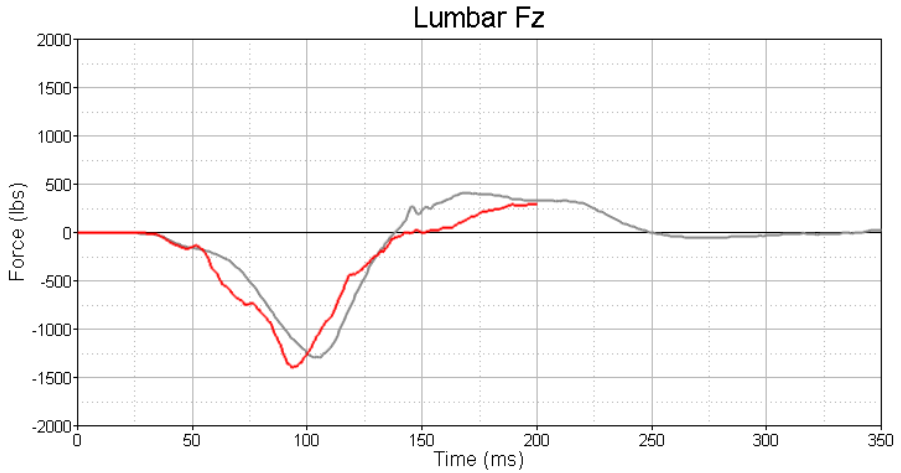


Validation : 60° forward condition

- **Lumbar force**

--- Test
--- RADIOSS model

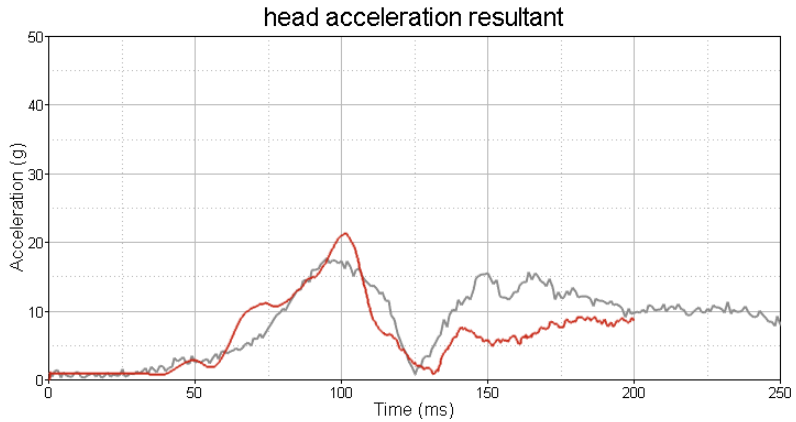


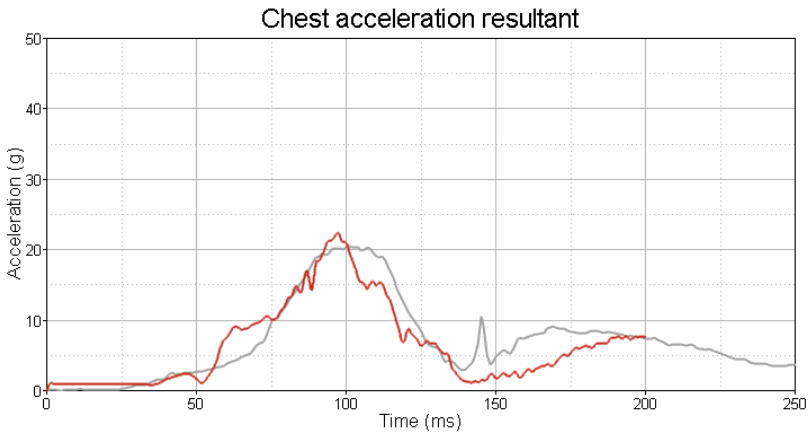


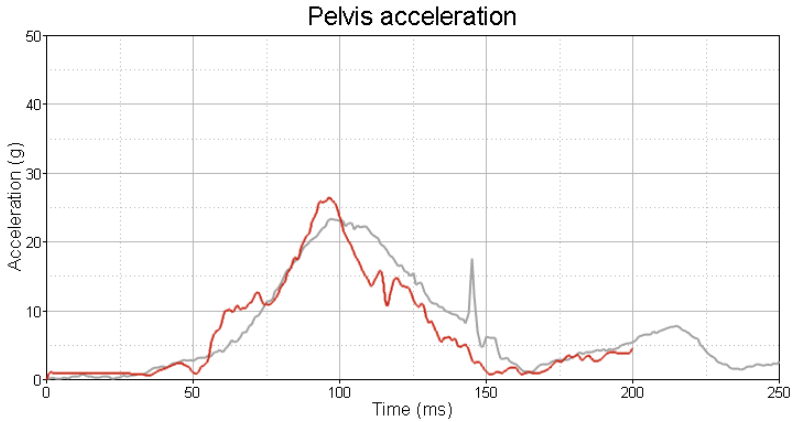
Validation : 60° forward condition

- **Acceleration**

--- Test
--- RADIOSS model



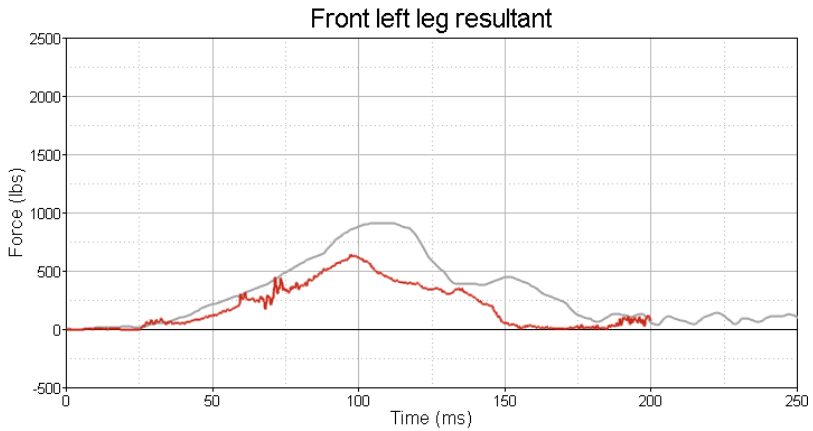


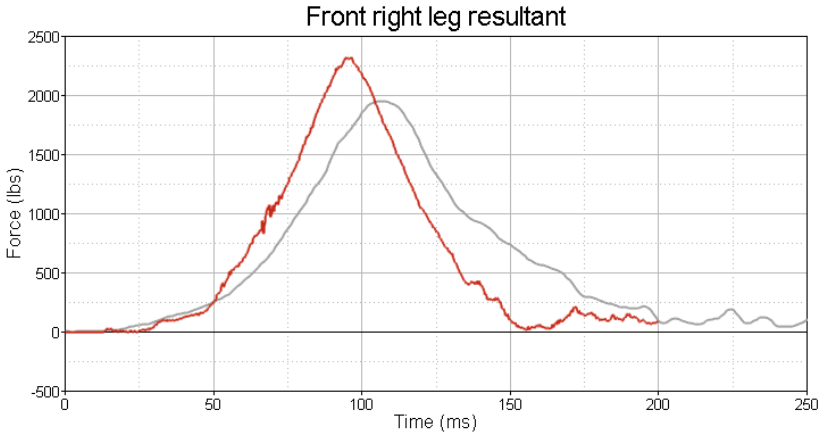


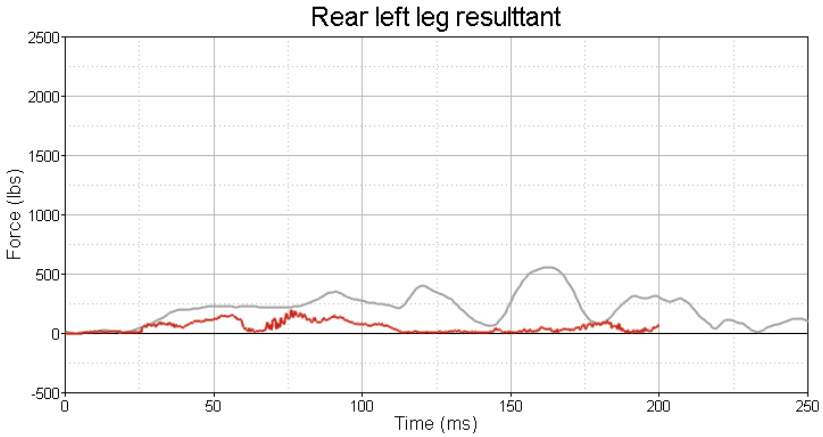
Validation : 60° forward condition

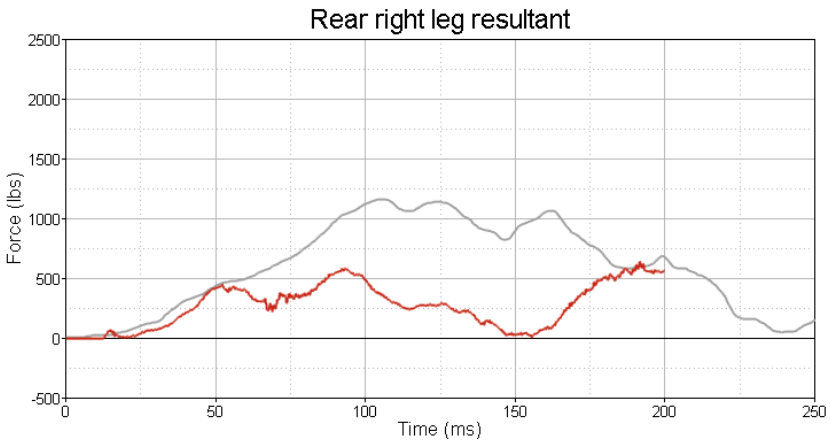
- **Seat to floor load cell**

--- Test
--- RADIOSS model









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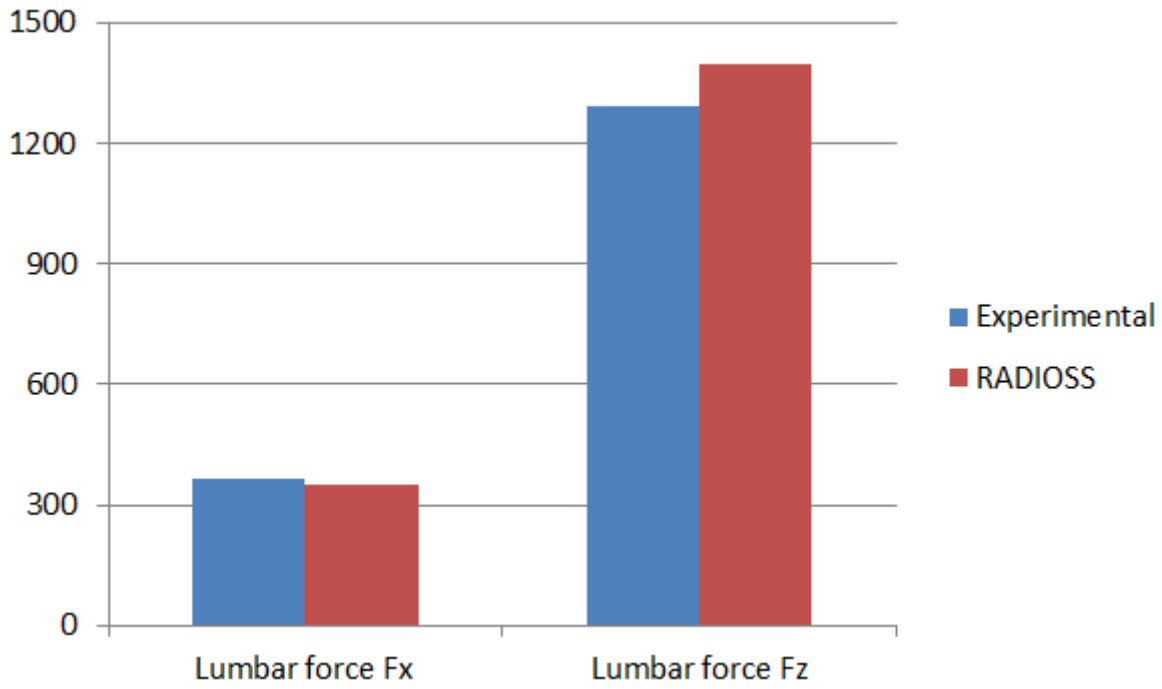

Competitive Differentiation – Why Altair Wins

- Powerful business model with unmatched customer value
- Depth and breadth of the overall solution set
- Market defining optimization technologies
- Unparalleled performance and measurability
- Unique ability to leverage high-end services to drive next generation solutions
- Strong global organization that can meet the needs of the most demanding customers worldwide

No other vendor offers the completeness or robustness of the Altair solution set